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The Maples.

BY P. BARRY.

THE Sugar Maple (*Acer saccharinum*), the Scarlet or Soft Maple (*Acer rubrum*), the Silver Maple (*Acer dasycarpum* or *eriocarpum*), and the Norway Maple (*Acer platanoides*), may be called common and well known trees in this country; the three first named especially, being extensively planted as street or avenue trees, both in city and country. Few persons, however, know how large the family or group is, what a variety it presents in habit of growth, in form and color of foliage, bark, flower and fruit. Upwards of twenty-five species and varieties are enumerated in some of our American catalogues, and this is far from representing all that are known. Some European catalogues contain upwards of sixty—about one-half of the number being varieties obtained as sports or seedlings, in the course of cultivation.

One thing in regard to the Maples is very remarkable, and that is their wide geographical distribution. They are found in every part of our own country, from Maine to California. They abound in all parts of Europe.

Asia has already given us the charming maples of Japan.

The European forms have been found in Africa. It is quite likely they may be found in some form in every part of the globe; and this can be said of few other families of trees.

Beginning with our own species, and speaking of them only as ornamental trees, I would name first the Scarlet Maple (*Acer rubrum*). This tree is well known as Red Maple, and vaguely "Soft Maple." Its bright red flowers are among the first heralds of spring, and are succeeded by a profusion of red seeds. Last spring, in the months of February and March, I was in Florida, and in passing up the St. Johns river, the woods on either side were studded with masses of brilliant red, which we soon ascertained to be the Red Maple, covered with seeds. For at least a month

they remained in this condition, and on our return home in April through Georgia, South Carolina, North Carolina, Virginia, etc., we found it still covered with seeds, but we noticed that they grew paler in color as we came north. I do not think there was a mile of country between Florida and New York in which we did not see this maple. The intense crimson of the Southern seeds led us to suppose it was a distinct species, but we think it is not; the deep color is due to climate.

There is a variety named *Fulgens*, of dwarf growth, and more brilliantly colored flowers and seeds.

The Silver Maple (*Acer dasycarpum* or *eriocarpum*) resembles the Scarlet Maple, but is a tree of more rapid growth, and attains a larger size. It is called "Silver Maple" from the silvery white color of the under side of the leaves. It is now more extensively planted than any other maple, being of very rapid growth, and adapted to almost any soil or climate.

The Sugar Maple (*Acer saccharinum*) is still a great favorite as a street tree. Its growth is stiffer and more erect than those named; the head is more massive, the foliage a darker green, and in the autumn assumes more brilliant tints of red and orange than any other maple, or indeed we might almost say, any other tree—one of our most valued trees for planting parks, and other extensive grounds where large masses of foliage of particular colors are desired.

The Norway Maple (*Acer platanoides*) is indigenous to the north of Europe, quite extensively planted in this country, resembles the Sugar Maple, but has larger foliage and grows more rapidly—a very hardy, fine tree. I have observed it thrive well on the seashore, where only a few trees would live.

The European Seyamore, or Sycamore Maple (*Acer pseudo-platanus*), a noble tree, of rapid growth, large foliage, and a wide-spreading head, well adapted to park and avenue planting.

The Spiked-flowered or Mountain Maple (*Acer spicata*), a native of the northern parts of our own country, a distinct and handsome little tree, attaining only ten or twelve feet in height. The seeds, which are borne in long graceful spikes, are highly ornamental in the autumn.

The Striped-barked Maple (*Acer striatum*), a native of our northern woods, where it usually goes by the name of "Moosewood." It attains a height of only ten or twelve feet, the bark is beautifully marked with longitudinal stripes of black and white. Both this and the preceding deserve more attention as ornamental trees.

The English Field Maple (*Acer campestris*), a small sized tree, with dense spreading branches. The trunk is curly and rough, leaves small and fine lobed; quite distinctive from all the other species.

The Ash-leaved Maple or Box Elder (*Acer negundo*), quite distinct from all other Maples. The leaves are opposite on the branches, and consist of two pairs of leaves and a single one; the shoots are of a peculiar green color, while the trunk is dark brown, making quite a striking contrast. It is a native of the western and south-western parts of the United States.

There is a variegated-leaved variety, white and green, the most beautiful of all that class of trees, but unfortunately it will not stand either our summer sun nor winter's cold. In Germany it is grown in pots for in-door decoration, and in the

parks of Paris it is planted in groups and masses, where it rivals in effect the most brilliant flowering and foliage plants. It is a sport from the common sort originated in France some twenty or twenty-five years ago.

The Newer Maples.

The Red Colchicum Maple (*Acer colchicum rubrum*), an elegant tree, of rapid regular growth and ample foliage, in its starry form resembling the Liquid Amber. The young shoots and leaves are of a peculiar purplish red tint that distinguishes it at once. Will be a popular tree as it becomes known. A native of Japan, but quite hardy.

The Large-leaved Maple (*Acer macrophylla*), a native of the northwest portion of our country, especially the Columbia river region, and in some parts of California.

It is a notable tree, of rapid growth like the Silver Maple; has large and more deeply-lobed leaves. In cultivation here only a few years.

Varieties of Maples with Remarkable Foliage.

The following are sports or seedlings of some of the preceding species having some striking peculiarity either in form or coloring of foliage:

Varieties of the Silver Maple (*Acer dasycarpum*).—Crisped-leaved (*Crispa*), a variety originated by Ellwanger & Barry. The foliage is curiously cut, and somewhat curled.

Wagner's Cut-leaved (*Wagnerii laciniata*), of European origin, foliage distinctly cut.

Wier's Cut-leaved. This is likely to prove superior to any of this class. Originated by Mr. D. B. Wier, of Illinois.

Variegated-leaved (*Variegata*); leaves handsomely marked with silvery stripes and blotches.

Varieties of the Sycamore Maple (*Acer pseudo-platanus.*)—Purple-leaved Sycamore Maple (*purpurea*), a distinct and beauiiful tree; its large leaves are dark green above and purplish red underneath, producing a fine effect when agitated by the wind.

Leopold's Sycamore Maple (*Leopoldi*), foliage marbled with purplish red, becoming lighter. The green parts have a bronzed tint; new.

Silver Variegated Sycamore (*Variegata*); the large foliage distinctly streaked and blotched with white. A well marked, beautiful tree.

Tri-colored-leaved Sycamore Maple (*Tricolor*), leaves distinctly marked with red and white; a very curious and beautiful variety, not quite so vigorous as the species.

Gold-leaved Sycamore Maple (*Aurea Variegata*), foliage delicately shaded and clouded with a yellow or golden tint; quite distinct and attractive.

Varieties of the Norway Maple.—Cut-leaved, or Eagle's Claw (*Laciniata*), leaves deeply cut and the sections sharply pointed.

Dissectum, another cut-leaved variety of recent introduction, and promising to be a finer tree than the preceding.

Lobel's (*Lobelii*), an upright symmetrical tree, with peculiar pea-green foliage.

The Japanese Maples.—These, as far as yet introduced, except the Colchicum

already described, are slow growing trees, with small delicately cut or fringed leaves, in some cases remarkable for their bright colors. They are difficult to propagate, and will be introduced slowly.

Rochester, N. Y.

How to Plant a Rural Home.

By Josiah Hoopes, in New York Independent.

THERE are two requisites in adorning the surroundings of our rural homes, without which failure will be the inevitable result—natural talent and practical experience. The former cannot be learned from books, but may be improved like all other studies. The latter is absolutely essential, and improves one all the time. When a novice undertakes his own planting, without a previous knowledge of trees and their individual requirements, the effect will be similar to a house, which he had felt competent to build without the services of an architect. I sometimes think that no one should arrange his own grounds without first consulting an intelligent, first-class landscape gardener, under the very same principle that he would engage the services of an architect to prepare a plan for his dwelling. But possibly I am too ultra in this, and I will therefore modify it somewhat by stating, that there is a class of Americans who really love trees and plants, and, consequently, would derive no small amount of pleasure in arranging and planting their own yards and gardens.

To these, I propose to offer a few hints for guidance, and will take an imaginary section of ground, say an area of about one acre. On the south, east and north the property is bounded by public streets, and the dwelling is placed 100 feet from the front, or south, and 40 feet distant from the east, or side street; we thus leave sufficient space on the west for another similar dwelling, if desired hereafter. At the southeast corner the entrance should be located, with a gradual curving drive leading to the end of the front porch, then passing parallel with the side of the dwelling, end at the coach-house and stable, on the rear of the lot. Directly in front of the latter should be a circle for a return-drive, with a Hemlock Spruce (if there should be sufficient space), or a Siberian Arbor Vitæ (if contracted), planted in the center. These assist in concealing the objectionable features connected with such out-buildings. I should recommend planting the American Ivy (*Ampelopsis*), the New Evergreen Honeysuckle (*Lonicera brachypoda*), and its conspicuous variety, the Golden-veined Honeysuckle (var. *aurea reticulata*), around the carriage-house, so that it will always form a picturesque object, and especially during the autumn months. English Ivy is at all times handsome; but the prevailing fault of our countrymen is impatience, hence we require more rapid growing vines, such as I have mentioned.

Clustered along the rear of the lawn should stand a belt of low evergreens, which will also assist in screening the homelier portion of the place from view. These should consist of a small sized tree or two on the extreme background, with the others graduating in height to the front, whilst low trailing species must form the outer edge. For instance, commencing at the back, place either a Siberian Arbor Vitæ and Plicate Arbor Vitæ, or a Tree Box; in front of these, a *cephalotaxus*, Erect Yew, Dwarf Pine, Hoopes' Arbor Vitæ, Hovey's Arbor Vitæ, and the new Rollinson's

Elegantissima Arbor Vitæ; with a yet smaller class in front of them, such as Gregory's Dwarf Spruce, Hudson Bay Dwarf Fir, Dwarf Chinese Arbor Vitæ (*Biota nana*), Canadian Trailing Juniper, Prostrate Juniper and Lavin Juniper. Directly back of the dwelling will be an excellent location for a few standard fruit trees, and although it is a difficult matter to say what varieties every one should plant, few, very few, being universally first class—still I should not like to do without, say one each, of the Bartlett, Seckel and Lawrence pears; Gov. Wood, Early Purple Guigne and Early Richmond cherries; Early York, Early and Late Crawford and Ward's Late Free Peaches, and one or two Orange Quince trees.

At each bend of the carriage road should be placed a group of flowering shrubs; and here let me say that shrubbery on a lawn must have two prunings during the season—the first before vegetation starts in the spring, and again during the latter part of summer, always keeping in view a perfect rounded form. Two groups on the east side of the drive may be sufficient, and they may be composed of the following: For the larger, Hydrangea paniculata grandiflora, Weigela rosea, Forsythia viridissima, Cydonia Japonica, Weigela hortensis nivea, double rose and double White Almond; the smaller group, say of three shrubs, may be Weigela rosea nana variegata, Purple-leaved Berberry and variegated Indian Currant. Thus we have a showy bed all the season of white, purple and yellow foliage, in addition to the handsome flowers. At the east side of the residence, facing a bay window, if possible, should be located one of the grandest features of the place—I allude to a bed of Rhododendrons. These should be distinct in color, and to create a rich effect, the group must consist of from six to twelve plants. No especial care is necessary in preparing the soil, excepting where heavy clay prevails. In that case, the soil must be removed to the depth of two feet, and the excavation filled up one-third with small stones, for drainage. The soil for refilling is best composed of old surface sods well rotted, and leaf-mould from the woods, with a fair proportion of sand. Fill up the bed a few inches higher than the surrounding surface of the lawn. On either side of the entrance gate, I would recommend planting a Magnolia; for instance, M. soulangiana and M. conspicua; these are always beautiful during summer, and remarkably so when covered with their gorgeous bloom. We now arrive at the front lawn, which is the great stumbling block to most planters. By all means leave a clear open vista, directly in front of the dwelling to the street, with the exception perhaps of three circular flower beds, so placed as to form an equilateral triangle. One of these may be filled with different colored Coleus in distinct rings, finishing the outer edge with a dwarf Alternanthera. Another bed may be composed of Scarlet Geraniums, either Gen. Grant or an equally profuse blooming kind, with an edging of silvery-leaved Artemesia. The third bed, so placed as to form the most distant point of the triangle (the first two being parallel with the dwelling), should have for a center-piece a strong plant of Abutilon variegata, and around it circles of Achyranthus, variegated Euphorbia, Coleus verschaffelti and Cineraria maritima. A firm gravel walk, about five feet in width, would prove a handsome feature, commencing from the front door, and after passing westwardly in front of the house, gracefully curve away in an easy flowing style, and end at the front of the grounds, near the southwestern corner. In the angle formed by the front fence or terrace,

and the drive, as well as the corresponding angle formed by the aforesaid walk and the front, would be suitable places for groups of three Evergreen trees each—one of which might be formed of three Hemlock Spruce, and the other of three White Spruce; or if expensive species are desired, I would recommend one to embrace an Abies nobilis, A. pichta, and A. Nordmanniana; the other, A. cephalonica, A. grandis, and A. orientalis. Passing up the entrance drive on the left may be located a bed of hardy Belgian Azaleas of dazzling colors. Near the dwelling, for shade, we must have a Silver-leaved Linden, and close by, a Kilmarnock Willow. Again shifting our position to the entrance of the gravel walk, on the right as we approach the dwelling, a bed of Yucca will be very appropriate, and farther on may be two or three trees, partly for shade: for this purpose the Magnolia umbrella, Sugar Maple, and Dwarf Weeping Cherry, or, in place of the latter, the Weeping Great-toothed Poplar would make a beautiful trio. The western plot, or that portion of the lawn situated between the entrance walk and the western boundary, only remains to be planted. At the front we can introduce a group of four evergreens, and the same number of small deciduous trees. The former may be composed of a Norway Spruce, White Spruce, European Silver Fir and a Cedar of Lebanon; whilst the latter, planted on the outer edge, may be Red Bud, White flowering Dogwood, Virgilia and White Fringe. In a curve of the walk, a mass of flowering shrubs may be introduced, such as the Fragrant Clethra, Double-flowering Deutzia, Hypericum Kalmianum, Viburnum plicatum, Hydrangea quercifolia, Ribes' aureum, Spirea Billardii and Spirea Reevesii. A little further on, a bed of roses will form a pleasing feature, particularly if set in circles of distinct colors.

At the southwest corner of the dwelling, standing singly, should be the finest specimen about the place—a Norway Maple—not only affording shade, but forming a beautiful picture. On the open lawn, west of the residence, a large circular bed for tropical plants will look well. To create the best effect, in the center set a large-leaved Ricinus, then a few tall Cannas, next Wigandias and Callocasias, and lastly, hardy ferns for an edging. Along the northern boundary of this portion of the lawn must be a dense belt of trees, formed of the following species, judiciously arranged, with an easy flowing outline: Salisburia, Purple-leaved and Fern-leaved Beeches, English cork-barked Maple, European Horse Chestnut, European Larch, Austrian and Scotch Pines and Siberian Arbor Vitæ. A Weeping Beech should stand alone in front, and one or two groups of three each, mainly of the smaller class of trees, can also be judiciously introduced on this side-lawn. For this purpose I would suggest the Weeping cut-leaved Birch, cut-leaved Alder, and a double flowering Thorn (where the latter will thrive).

Another pretty group may be composed of the Laburnum, Halesia and Magnolia glauca. So much for the ornamental portion of the grounds, and now a few items in respect to the practical department. Surrounding the latter should be planted either a Hemlock or Arbor Vitæ hedge, to be kept neatly trimmed. The compartment for small fruits, which I prefer to have separated from the culinary garden, may be set as follows: First, a few dwarf pears, say one each of Doyenne d'Ete, Howell, Seckel, Beurre d'Anjou, Duchesse d'Angouleme and Lawrence. One each of the following dwarf apples: Red Astrachan, Early Joe, Primate, Jefferis, Porter and Smoke-house.

Then of the smaller fruits, 12 Red Dutch currants (nothing *pays* better than this), 12 White Dutch currants, 12 each of Kittatinny and Lawton blackberries. Where flavor and size is concerned, without regard to trouble, I should recommend in raspberries, Hornet and Brinckle's Orange; but for heavy crops, with little care, the Philadelphia heads the list. Twenty-five plants of these will be sufficient, and in planting *always set very shallow*—more plants being killed by deep planting than by all other causes combined. Twelve plants of the American Seedling Gooseberry will furnish sufficient tartness to set the teeth of one family on edge for a year. There is nothing better, however, for hardiness and productiveness combined. Strawberries in rows, with the runners kept off, may be planted between the above, and as to varieties, can we recommend any one beside the Albany? If the soil is clayey, grow Triomphe de Gand, but this must be tested. Along the back of the enclosure should be erected a trellis for hardy grapes; and just here the question arises, what varieties can we recommend? In the vicinity of Philadelphia, we cannot get very far beyond the Concord, Hartford Prolific, Creveling, Clinton and Union Village, but with the addition of a narrow roof on the summit of the trellis, I have seen the Delaware, Diana, Rogers' Seedlings, etc., thrive successfully. Every one with sufficient means (and it is surprising how very little trouble and expense it really is) ought to have a small cold grapery for at least one each of Black Hamburg, Black Barbarosa, Muscat Hamburg, Bowood Muscat, Muscat Trouvernon and Golden Hamburg. The vegetable garden should be laid out in rectangular beds, with a supply of Linnæus Rhubarb (the very best) and Asparagus planted on the borders. The coarser growing varieties, such as Sweet Corn, Pole Beans, and perhaps Potatoes can be grown among the fruits in their enclosure. I would say in conclusion, it *don't pay* to grow weeds, but it does to stir the ground often, and thereby keep every portion neat and clean.

A Test of Molecular Manure.

WE took several packets of Thorburn's green-house seeds the other day, and report the following: In a soil one-third ordinary stable manure, just in the last stages of fermentation, and two-thirds sandy loam, put into two-inch wooden boxes on hot water pipes, imparting a steady heat of 70 degrees Fahrenheit, we brought up fine half-inch to inch in length

Geraniums	in 48 hours.	Primrose (Chinese)	in 48 hours.
Pelargoniums	" 48 "	Acacia	" 60 "
Canna	" 36 "	Carnations	" 40 "
Japonica	" 36 "	Clianthus	" 40 "
Calceolaria	" 60 "	Erica & Epacris	" 40 "

And so on through Mr. Thorburn's entire list of green-house seeds. Not one packet was more than sixty hours in coming to the surface a perfect shoot. Doubtless much is due to the peculiarly fermentative condition of the manure used.

You will see by this that molecular manure has some good in it, and is an excellent food for all vegetable growth.

H. K., *Clinton avenue, Brooklyn.*

Profitableness of Fruit Culture in Michigan.

FEW have any adequate idea of the vast amount of fruit now being raised on the shores of Lake Michigan. We have recently received some statistics concerning fruit culture near the town of Spring Lake, Mich., for the year 1871, and the names of some of the best growers. The largest vineyard is that of Hunter Savidge, Esq., which contains 2,000 vines. Three vineyards have each produced fifteen tons of grapes, mostly Concords. The aggregate amount of grapes raised in the vicinity of Spring Lake this year will reach 140 tons. There were 18,000 baskets of peaches shipped this fall.

Geo. H. Lovell: 4,500 peach trees on twenty-five acres; shipments, 7,000 baskets. Received for same $3,500; grapes, one-half acre, 7,000 pounds, or 3½ tons, netted three cents per pound, $200; apples, twenty bushels; net proceeds $3,710.

Chas. E. Soule, proprietor of Vineyard Point Orchards, reports 299 bearing peach trees, mostly Early Crawfords, which produced 2,241 baskets; gross sales $1,416.93; cost of baskets, freight, etc., $434.93; net proceeds $982. Of grapes, Mr. Soule has a large number of vines all young; from his vineyards he realized $251.95; proceeds of farm $1,223.65.

J. B. Soule reports 2,000 peach trees three years old, mostly Early Crawfords, from which he shipped 1,000 baskets. His vineyard consists of 360 vines of the Concord and Delaware, from which he shipped 4,500 pounds; raspberries of the Doolittle variety, raised forty bushels; net proceeds, peaches, $650; grapes, $100; raspberries, $70; total, $820.

E. A. Treadway has fifteen acres under cultivation, which, three years ago, were covered with forest trees and underbrush; he has 100 bearing peach trees, which produced sixty baskets. His vineyard consists of 500 young vines, from which he gathered 3,000 pounds, or one and a half tons of grapes; also, ten bushels of Black Cap raspberries and ten bushels of Red Cap raspberries. Net proceeds, peaches, $15; grapes, $75; black raspberries, $50; red raspberries, $30; total, $170.

Martin Walsh: 111 peach trees, from which he shipped 1,000 baskets of peaches, and from his little vineyard he had the most remarkable yield on record. He has sixty-two rows of the Concord, twenty-three vines in a row, in all 1,426 vines, from which he shipped 280,550 pounds of grapes, or *fourteen tons five hundred and fifty pounds*, for which he realized three cents per pound net, or $841.65 off two acres and thirty-six rods. Mr. Walsh also reports ten bushels Siberian crab apples, ten bushels of raspberries, twenty bushels blackberries. The net proceeds of a crop grown on a little over two acres of ground, as follows: Peaches, $500; grapes, $856.50; Siberian apples, $20; raspberries, $30; blackberries, $150; total, $1,550.50.

Chas. Allen's young vineyard and orchard of five acres produced as follows: Of grapes, 7,900 pounds, or near four tons, from 700 Concord vines; one acre of strawberries, half of which produced twenty-five bushels; and twenty-eight bushels raspberries. Mr. Allen has 100 young peach trees and 200 apple trees beginning to bear, and 100 pears. Net proceeds, grapes, $632; strawberries, $180; raspberries, $84; total, $896.

H. G. Smith reports having shipped 789 baskets of peaches, 200 grape boxes, 110 bushels apples. Net proceeds, $497.67.

T. D. Dennison reports having raised from 100 young peach trees, 600 baskets. In his vineyard he has 200 vines, from which he gathered 2,000 pounds. Net proceeds, peaches, $360; grapes, $80; total, $440.

From the Spring Lake Nursery, John K. Kneeland & Co., proprietors, we have received the following statement: The firm owns 161 acres of land, one-half of which is in orchard, nursery and vineyard. This firm has 1,200 peach trees beginning to bear, from which 1,000 baskets were shipped this year; 250 apple trees now bearing; 4,000 now being added to the orchard. Their vineyard contains at present four and a half acres of young vines, from which 2,500 pounds of grapes were shipped. Two acres were planted in small fruits.

L. D. Bartholomew reports seven acres in peaches—orchard. He shipped 125 baskets from one acre. He has 500 bearing vines in his grapery, from which he had 2,000 pounds, or one ton of grapes; of raspberries he had 200 quarts.

Hiram Beckwith has forty acres; his apple orchard contains 150 young trees, which bore sixty bushels this year: ten bushels of pears from twenty-five trees. Mr. Beckwith has 600 peach trees and 200 beautiful quince, three years old; also one acre in vineyard, one-half acre in strawberries, and one-fourth of an acre of raspberries.

W. G. Sinclair reports having sold 200 baskets of peaches, forty bushels of apples, twenty bushels of raspberries, and 2,000 pounds of grapes.

This, with most of the above orchards and vineyards, is within the corporate limits of Spring Lake.

Curious Plants.

BY ROBERT MANNING.

MY friend, Mr. L. Guerineau, the gardener to the botanic garden connected with Harvard University, a short time ago, sent me a flower of *Stapelia grandiflora*, having on it maggots, which had been hatched from eggs laid there by flies who were attracted by the odor of the flower, which strongly resembles that of carrion. The Stapelias are a curious tribe of plants, with succulent leaves; and, notwithstanding the disagreeable odor which attaches to almost all the species, have been considerably cultivated in conservatories along with cactuses for the sake of their beautiful flowers. They are all natives of the Cape of Good Hope, and the peculiar odor is said to be relished by the Hottentots there. The species now under notice has flowers of a dark chocolate color. Mr. Guerineau informed me that he afterwards noticed that the maggots were eaten by ants. The peculiar odor has given these plants the name of Carrion flower.

A still more rare and curious plant was shown last summer at the rooms of the Massachusetts Horticultural Society from the same garden. This is the *Desmodium gyrans*, an East Indian plant, with digitate leaves, of three leaflets, the two outer of which rise and fall in turns spontaneously, nearly all day long, in jerky motions resembling those of the arms of a semaphoric telegraph, which has given it the name of Telegraph plant. The central leaflet, which is much larger than the two others,

has a similar motion but much slower. These motions are best observed when the temperature is 80 deg. Fahrenheit. Unlike those of the Sensitive plant, they take place when the plant is entirely untouched. It is easily grown as a tender animal.

Salem, Mass.

Window Gardening.

NONE can have failed to notice how rapid has been the increase of interest in this subject the past three years. Indeed, it might be said that Horticulture has taken one of her periodic transitions of fancy, and the popular favor having forsaken fruit, has now taken up flowers and window gardening. When a new volume upon this subject was announced some time ago to be issued from the pen of the editor of THE HORTICULTURIST, it was at once accepted as a most seasonable topic, and upon which there was an abundance of encouragement; and now, with the issue of the third edition within a month, needed to supply the demand, the results indicate that a peculiar vein has been opened in our floral literature which will prove immensely successful. It can hardly be expected of an editor to review his own publication, but a brief statement of the contents may be pleasing to the numerous readers of THE HORTICULTURIST.

There are contained over 300 pages in this volume, which, in unity of plan, are divided into three parts, for convenience of classification of topics:

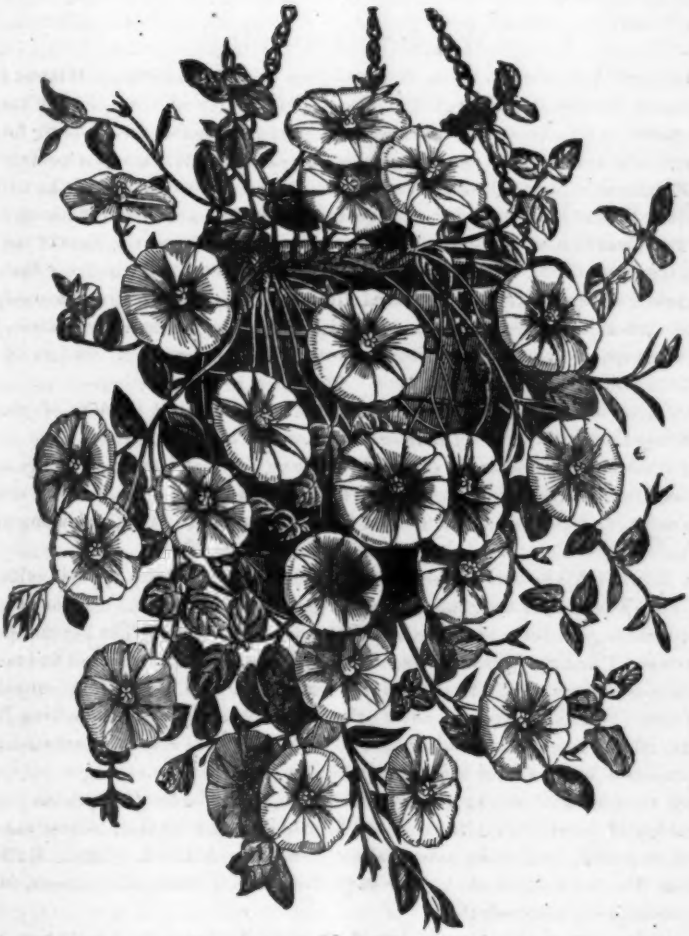
Part 1 considers the topics of the *Popular Taste for Window Gardens*, the numerous mechanical designs for building cabinets and conservatories, the general management, insects, and all needed instructions for the special care of plants during all the seasons of the year.

Part 2 is much the most complete, being devoted especially to the culture of *Plants for Window Gardens*, and comprises alone over 150 pages. Single chapters, such as Hanging Baskets, Ferneries and Wardian Cases, Bulbs, The Ivy for decorative purposes, Climbing Vines, Balcony Gardening, etc., are unusually full and minute, and profusely illustrated. Nearly all the plants suitable for in-door culture are named, and instructions given for their culture, and chapters upon Camellias, Roses, Fuchsias, Heliotropes, Geraniums, Bouvardias, Verbenas, Petunias, Carnations and Miscellaneous Plants, will be read with interest by the amateur.

Part 3 contains over 50 pages devoted to the topic of *Parlor Decorations*. Every idea that could be of use to ladies in the floral decoration of their rooms has been gathered together, and information about Ornamental-leaved Plants, Marantas, Dracænas, Palms, Caladiums, Cut-Flowers, Bouquets, Ornamental Grasses, Miniature Gardens, etc., is abundant.

The illustrations of this chapter are of an unusually beautiful description, while the entire volume is a collection of engravings of rare taste and pleasing elegance.

Candor and modesty must prevent us from saying more, but the accompanying illlustrations of a Hanging Basket, and our frontispiece of the Balcony Garden, taken from the book, are sufficient to indicate its character. It is believed to be the most complete volume on the subject ever issued in this country, while its comparatively cheap price commends it to all.



Hanging Basket of Convolvulus.

The Currant Worm.

ONLY a few years ago the currant was, perhaps, the most easily raised of all our small fruits. Indeed it might almost be said to grow without cultivation, flourishing in spite of the weeds and rubbish with which it was often surrounded. But the imported currant worm (*Nematus ventricosus*), has changed all that, and threatens, unless checked, to destroy not only our crop of currants, but the bushes themselves. It is commonly described, as in a very full and interesting article in the American Entomologist, vol. II, page 15, as having two broods in a year, but the last season I noticed *three* well marked broods, appearing at intervals of about a month; the first in May, soon after the foliage appeared; the second, the latter part of June, and the third the latter part of July.

Besides the remedies usually recommended, I tried a powder called the Howe Cave Fertilizer, which was sent me by a friend who had used it with good effect in destroying these pests. To afford a better oportunity to observe its effects, some leaves, with worms of different sizes upon them, were gathered in the morning and covered with the powder, which evidently annoyed them, though they were able to crawl away quickly; but, by persistently pushing them back into the powder they were all dead in the course of the day. The same experiment was tried with the Grafton Mineral Fertilizer, a fine powder made from dolomite rock, found at Grafton, New Hampshire, with precisely the same effect. Yet the testimony as to the efficacy of both these articles, from trustworthy persons, is too strong to be doubted, and some have found air slacked lime effectual, from which I am led to suspect that the benefit resulting from the use of these articles has been caused by the leaves being rendered distasteful to the insects by having the powder thrown on them while wet; and no doubt, like all other remedies, they would be much more effective while the worms were young than after they were well grown. It should be remembered that the worm is not slimy like the pear slug which is so quickly destroyed with any kind of dry dust, so that the powder does not stick to them.

The experiment with the fertilizers was repeated with Colburn's Currant Worm Exterminator, which, judging by its color and smell, is composed mainly of carbolate of lime, and the same effect was produced, but much more quickly. A friend who used carbolate of lime found it quite effectual as long as the worms were young, but not when they were fully grown, while powdered hellebore was instant death to them at any stage of growth. White hellebore is undoubtedly *the* specific for the currant worm, but the greatly increased demand for it has caused it to be adulterated at the same time that it has raised the price. White oil-soap, with the addition of kerosene oil, has been found effectual, the proportions used being five pounds of soap and one quart of kerosene to twenty-five gallons of water. The soap and kerosene should first be thoroughly mixed, then add two pail-ful of hot water and stir till the soap is dissolved, and then add the remainder of the water cold, when it is ready for use. It should be applied forcibly with a syringe in bright sunshine. The middle of the forenoon is a good time, for then it will dry on to the leaves, whereas if applied in the evening, the falling dew gives the worm a chance to revive. After three such applications but few worms will be found.

When the worms make their appearance in a garden for the first time, the best way to destroy them is to pick off and burn the leaves having egg or worm on them, but after they have been allowed to propagate, it will be impossible to do this effectually, at least in large plantations.

The small, white eggs are found on the midrib and veins on the under side of the leaf, mostly round the lower part of the bush, and by plucking and burning a single leaf, we can prevent the ravages of perhaps fifty worms. R. M.

Strawberries.

The Farmers' Club, at Concord, Mass., discussed Strawberries at one of their meetings last winter, and, as many interesting facts of personal experience were elicited, we give extracts from a report furnished *The American Rural Home.*

F. G. P. said his first experience in strawberry culture, about ten years ago, was on a light dry soil, and the season being moist, a fair crop resulted. The next crop was on a side-hill, soil varying from light sandy to heavy loam and black mud. On the highest soil but little fruit, and the white grubs troublesome. On the heavier soil a much better crop was gathered. The next year on similar soils, he obtained same results. He afterwards tried a field nearly level, the upper side of which was a black, clayey loam and running down to pure peat, and here he had his best crop. But such soil is more difficult to cultivate, owing to a stickiness after a rain, and the greater variety of weeds to be destroyed. Such soil requires thorough drainage before a good crop can be expected. Water is indispensable, but it must not be stagnant. His experience leads him to believe that a moist clayey loam, thoroughly drained, heavily manured and carefully cultivated, is the best for the strawberry; he thinks there is not much danger of putting on too much manure, if of the proper kind. Old stable manure, with twice its bulk of muck, and the addition of some home-made superphosphate, is probably as good a manure as can be devised. Leaves are good, both as a mulch and as a fertilizer, and bone and ashes are especially desirable. He believes the best way to set the plant is, one foot apart in the row, and let each plant, by its runners, set one on each side about a foot distant, stopping all further running. This is the medium between the hill and bed system. The hill system leaves too much ground unoccupied, and the bed makes too many plants. He believes the Wilson the most profitable market berry we have here at present. Would rank the Charles Downing next. The fruit of this is large, and continues so to the end of the season. The Cutter is excellent for family use, but too small for market. Has given up all the other *old* varieties, and is trying many of the newer sorts, hoping to find some superior.

Mr. T., last year, had a bed eight rods long and one-half wide (twelve square rods), received $86 for the berries, or twenty-four cents a box.

Mr. W. H. H. had raised strawberries for two or three years. Last year he got 4,000 boxes from a little less than an acre. Set on sward land, turned over in spring. Moist clayey soil. Grubs rather troublesome on the drier part of the land. Plants, set four feet in the row, rows two and a half feet apart, two rows running together

to make one bed. They spread so as to cover the ground mostly. Plants too thick in parts of the field. This crop pays for good care. Wants the plants to cover the ground, standing about a foot apart. Where plants are thick not so much danger of winter killing. Has kept his last year's bed, but it was very weedy, especially was the sorrel troublesome.

M. F. preferred to plant so that most of the work can be done with the horse. The cultivator does the work between the rows, and the horse between the plants. Thinks the work per acre not more than half as much when kept in rows as in beds; but if enough more berries can be taken from the beds to pay for the difference in labor, that method may be best on the whole.

Captain M. plowed up the spaces between the rows in the old beds, then leveled them down with the hoe. Mowed the plants down as close as possible as soon as the beds had done bearing, and weeds. The weeding is not more than half as much work as a new bed requires. The crop is more sure. Sorrel has no business in a strawberry bed. All the varieties that bear large fruit, and send up numerous fruit stems, do best in hill culture. Hoveys do best in bed because they never have more than one stem. Had last year three acres in strawberries, giving at least 6,000 quarts to the acre,

Dr. R. said strawberry culture is a business of growing importance in all parts of the country. His crop has sometimes been good and sometimes failed. His soil is too dry. Irrigation would be a great help; would lengthen out the season. Will pay well where water is convenient, as this will save manure.

Waste in Products of Apple Orchards. Vinegar.

BY M. L. DUNLAP.

ON my library shelves is a long array of books, with the title of HORTICULTURIST, beginning with Vol. I, in 1846, a time when we of the West had little thought beyond herds of cattle and swine. The idea of the planting of large orchards, the laying out of lawns, or of surrounding our homes with the beautiful as well as the useful, had not as yet disturbed our thoughts. But the genius of growing that filled the pages of the HORTICULTURIST came to us month after month, and stirred in us new impulses; and lo! orchards and towns, and shelter belts and hedges, and walks bordered with flowers, appeared on the prairies, to give a home aspect to the prairie farms, when the winter wind and the summer zephyrs had alternately held sway. But the winter winds, without a lawn studded with conifers, or the farm buildings and orchards protected from its arctic breath, had no special attractions to the pioneer from wood-crowned hills and sheltered vallies of the Atlantic border, and the summer zephyrs vainly kissed the cheeks of beauty, without the roses of June for a contrast.

A quarter of a century has been added to the roll of time; a few short years, but they have been years of activity; 5,000 miles of the iron road have been laid within our State, its vast deposits of mineral coal have been laid open to use, and the whole aspect of the prairies have been changed, while the climate has undergone serious modification, as a consequence of pasturage, culture and the planting of orchards, hedges and shelter belts.

While our soil has many things peculiar to itself, and our climate puts on more continental airs than yours of the Atlantic slope, yet there are many, very many things in common that bind us in a mutual interest. We have looked to you for instruction, but we have not always considered the varying condition that steps in, to make null some of our best efforts; in short, we have been too much disposed to follow and repeat your failures instead of making a careful study of your success.

In our large orchards, we, like you, have allowed a vast waste. We have gone to the brewer and distiller for a liquid that is of doubtful value for a common beverage, and we have allowed the fabricator of vinegar from sugar of lead, sulphuric acid, whisky and stagnant water to supply the place of cider vinegar. A mixture of all these poisonous ingredients is fermented and allowed to drip through casks of corn-cobs, in order to produce a condition that may pass for vinegar.

We may say, without the fear of contradiction, that one-third of the product of the apple orchard goes to waste. I am aware that these are large figures and may startle many persons, but figures when set in goodly array never lie. Here we begin the marketing of the early summer apples about the 20th of July. Early Harvest, Red June, Sops of Wine and Red Astracan. We can only sell the best, sound, smooth, fair-formed apples, of good size, all the others must remain at home, and to put these at one-third of the gross yield is a low estimate. These apples are fully ripe, and might be made into cider, but cider at that season of the year is not much in demand, and if made will not keep more than two or three days. Now, a bushel of these ripe apples will, if grated and put in a powerful press, give off nearly four gallons of juice, and in time turn out three gallons of good vinegar. No water is to be added, and if pressed the second time, cider warmed must be added to soften the pomace, that the last drops of juice may be pressed out.

The same thing occurs to the autumn fruit, but now we may figure to select the sound, small and imperfect apples for early cider, but in pressing this we should stop when we have taken out two and a half gallons to the bushel of fruit, and reserve the remainder for the vinegar barrel. At this time we also have windfalls of all the winter apples that should be gathered and put into vinegar. With the fall apples we may begin to put up cider for winter, if we have a cool cellar and one well skilled in cider making. I have now part of a cask of cider made the first week in September, that people call good cider to-day, at least it has not as yet reached that stage that people call hard cider. I think, when here last winter, that you pronounced it good cider. I have no trouble in keeping cider sweet and in prime order, made after the first day of September; and I, therefore, close my cider making at the close of the apple gathering season. All the small, sound and imperfectly formed winter apples are made into cider, but three gallons from a bushel of fruit is the limit; it is then repressed for vinegar. The result is nearly two gallons of vinegar to one of first class cider. Taking the class of apples named, the second pressing of the cider apples and all decayed apples go to the vinegar. I have heard people say, don't put rotten apples into vinegar. In reply to these people I would say that good vinegar is made by putting the apples in a vat or leach tub, and as they decay the cider or juice will run out and makes a good vinegar, *i. e.* Shaker cider vinegar, an article that has been held in high repute.

If you think I have made out a case I will close, trusting that the day is not distant when the orchard and the vineyard will supply the market demand for vinegar, and that adulterators of our food be driven from their nefarious pursuit.

Champaign, Ill.

Strawberries. Their Varieties and Culture.

By James Draper, Worcester, Mass. Read Before Worcester County Horticultural Society.

In the discussion of the Strawberry, its culture and variety, there are two things to be considered, whether you are cultivating for the market, or your own table; for those that grow fruit for their own use, with especial reference to its finest quality, are apt to undervalue the many so-called common varieties, that the market grower finds most profitable.

I will endeavor to give you, in as few words as possible, the result of my experience and observation with the different varieties now before the public, having grown them both for home consumption and the market. In comparing the Society's list of Strawberries, adopted six or seven years ago, with those in cultivation to-day, we find that in the improvement of this fruit, in size, productiveness, and excellence of quality, we have made a very decided advancement.

Varieties.

At that time the Jenny Lind, Hovey and Triomphe de Gand were the only varieties of established merit; the Wilson, then in its earlier history was, on account of the strong prejudice against it, with difficulty placed upon the list, but notwithstanding it lacked appreciation then, it has steadily advanced in public favor until it has become the berry of the country, standing as the Bartlett among pears, or the Concord among grapes, the fruit for the people. Fruit of a higher standard of excellence, a cultivated taste demands, but to a large proportion of the fruit buying public, a strawberry is a strawberry, sweet or sour, and that variety which can be produced the cheapest, and in the greatest abundance, is the one to be desired. Many are the abuses to-day heaped upon the Wilson by those who have means to buy, or land on which they can grow choicer fruit, but among the large class of growers of fruit for the market, you will rarely hear a word of complaint against the Wilson's Albany strawberry.

By the introduction of the *Nicanor*, a variety produced by crossing the Wilson and the Triomphe de Gand, we expected to find a rival of the Wilson, and at first it certainly bid fair to succeed. It is a plant of unusual vigor and hardiness, fruit of good size and attractive in color, decidedly superior in flavor, an enormous bearer, and earliest of all; but lacking the essential element of firmness for transportation, it will not answer for market purposes. For the family garden as an early variety I know of none introduced up to the present time that will equal it.

The *Ida*, another early variety, proves to be a very heavy and certain bearer, but being small, rather soft, and sharp acid in flavor, it will hardly become popular. I have tried most of the other early varieties that promised well for two or three years, but either for want of size, firmness or productiveness, have had to be abandoned for those more reliable; among those discarded I might name the New Jersey scarlet, Philadelphia, Metcalf's Early, French's Seedling, and Jenny Lind.

The *Downer's Prolific* for a near market, I have found to be a very reliable and profitable variety; ripening with the Wilson, of good size, color light scarlet, flesh quite firm, rather acid but of good quality and very productive. This variety, the Charles Downing and the Kentucky originated with J. S. Downer, of Kentucky, and a better trio, for early, medium and late ripening varieties have rarely been introduced by the same individual.

Charles Downing begins to ripen before the Prolific is done fruiting, and continues long in bearing. It is a large and much better berry, of fine shape, and color of bright crimson, flesh quite firm, juicy, and of a rich sub-acid flavor. The plant is a strong, healthy grower and productive.

The *Kentucky* is the latest ripening berry that we now have. The fruit is equal in size to the Downing, but not quite as attractive in appearance, being somewhat irregular in shape, and of a dull red color, but it is a heavier bearer, and much superior in quality. For all kinds of soil, and especially for a light sandy one, where many kinds will not flourish, these have given the best of satisfaction, whether grown for home use, or the market.

Hovey's Seedling, well known to you all, is now rarely found in cultivation, except in the vicinity of Boston, where it was originated. Probably no variety has done as much to advance the culture, and encourage the improvement of the strawberry as this, and though we fully appreciate what it has done for us in this respect, we are obliged to lay it aside, to give place to the perfect-flowering, and more certain bearing varieties.

Scott's Seedling, Brighton Pine, and the Lady of the Lake, all originating with Mr. Scott, of Brighton, in this State, have had a fair trial; the two former we found to be of fine quality, but too light bearers for profitable culture. The Lady of the Lake, a pristillate variety, and, as such, generally objected to by growers, seems to be gaining in favor among marketmen. It is of good size, rather unevenly shaped, color a bright glossy red, flesh firm, sweet, and of good quality. When this variety is thoroughly fertilized it is very productive and profitable.

The Agriculturist, Green Prolific, and Boyden's No. 30, or Seth Boyden, originating with the late Seth Boyden of Newark, New Jersey, have also been tried quite extensively. The first is a very uncertain bearer, and on this account is dropping out of favor in this vicinity. The Green Prolific is of good size, rather firm and of fair quality; like Downer's Prolific it seems particularly adapted to light or sandy soils, and for a near market can be cultivated with profit. The No. 30 surpasses in size any berry we have grown; its shape is somewhat round, with a long neck, color a darkish crimson, flesh as firm as that of any large berry; rich, juicy, of a decidedly superior flavor, and quite productive. For a market berry I should think it would prove profitable, and as a berry for the family garden it cannot but become popular. It has been stated that the originator once remarked, that he should not be satisfied in producing new strawberries until he had obtained one that would grow to the size of a pine apple, and on seeing his No. 30 in fruit, one would think he was fast approaching to it. But here we shall have to rest unless another attempts its accomplishment, for Seth Boyden's work is done.

The *Triomphe de Gand*, a Belgian variety quite extensively grown here formerly,

has so often failed in producing a crop, that there are now but few cultivators that attempt to grow it. Probably no foreign variety, excepting the Jucunda, has given such general satisfaction throughout the country as this, but in this section our experience with it has been unfavorable.

The *Jucunda* seems to take the place of the Triomphe, and I think that every grower will acknowledge that it is the most satisfactory late ripening variety that we have; fruit large to very large, very evenly shaped, color light crimson, flesh firm and of good quality. Its firmness will equal the Wilson, and is sufficient to allow of transportation three or four hundred miles in excellent order. It has also a very attractive, glossy appearance that commands for it the highest price of any berry in the market. Its season of ripening is late, or after the entire crop of the Wilson and some of the other early berries have been gathered. This variety should be grown in hills to insure a good crop of the largest sized fruit.

The *Lennig's White* is the most exquisitely fine flavored berry extant; it is not a wholly white variety, as one would infer from the name, for the surface is somewhat flushed with pink. The flesh, however, is white throughout and quite soft, fruit of medium size, plant vigorous, and a moderate bearer.

Napoleon 3d stands next in point of excellence. The fruit is of the largest size and often coxcomb shape, color a dull pink that is not particularly attractive, flesh rather soft, white, very juicy and of a sprightly high flavor. The plant is a fair grower and quite productive. This is one of the best late varieties for garden culture.

The *President Wilder*, that we have watched with unusual interest, fruited with us last year for the first time, and it proved all that was ever claimed for it, a strong, vigorous growing, healthy plant, a good bearer, fruit of the largest size, color a light glossy crimson, flesh firm, nearly white, very juicy with an excellent sprightly flavor, unsurpassed by few, if any, varieties in cultivation. For the uniformly good record this has given throughout this State, and the very favorable impression it produced in our immediate vicinity, I should think it is certainly entitled to a place on a list of varieties that promise well.

The *Col. Cheney* is a new variety now being disseminated by A. M. Purdy, of Palmyra, N. Y. It promises well, showing size, firmness, good quality and productiveness, but wherein, either in growth of plant, form, color and size of leaf, size, shape, color and flavor of fruit, it differs in the least degree from the Paragon, a variety originated and partially disseminated by Col. Cheney himself, and for whom Mr. Purdy named this variety, I am unable as yet to discover.

We have also grown the La Constante and Brooklyn Scarlet, and find the fruit thereof excellent to eat, but very scarce in picking time; also Russel's Prolific, a large heavy bearing variety, of fair quality, but it decays rapidly on the vines, and often before the fruit is ripe. And furthermore we have had some little experience with the new, highly lauded varieties, that have appeared from time to time, varieties that were to amaze the horticulturists of the country, varieties that in productiveness were to be astonishing varieties, that in size would be wonderful to behold, varieties that would bear fruit from June to November. Varieties that in hardiness would stand any climate from Maine to Texas.

In this precious list (and precious they were, some of them costing ten dollars per dozen plants), are the Mexican Everbearing, Dr. Nicaise, Colfax, and Golden Queen. A little better than these were the Romeyn's Seedling (or the Triomphe de Gand with a new name) the Michigan Seedling, and I might almost add the Peak's Emperor, for it has too little real merit for a variety sent out with such a blast of trumpets.

Every grower of the strawberry, to any extent, is being constantly asked this question, "Which is the best variety to cultivate?" In answering from my own experience and observation, and from the opinions expressed to me by other growers in the vicinity, I should name for market purposes on a heavy loam or clay soil:

Early—Wilson.

Medium—Charles Downing and Lady of the Lake.

Late—Jucunda.

Very Late—Kentucky.

On a light or sandy soil:

Early—Downer's Prolific, or Wilson.

Medium—Charles Downing.

Late—Kentucky.

For Amateur Culture:

Early—Nicanor.

Medium—Charles Downing, Lennig's White.

Late—Napoleon 3d.

Very Late—Kentucky.

Varieties that are promising well—Boyden's No. 30 and President Wilder.

Culture.

This article might be extended at length by giving in detail the different modes of culture that have been practiced with the greatest success. I will only mention a few of the most essential points. A deep soil, if not naturally deep, made so by trenching or subsoiling is of the first importance; next to that is heavy manuring. We have used forty, and sometimes as many as fifty, cords per acre, and the crops have doubly paid for this extra outlay in manure.

The distance apart for setting plants depends largely upon the amount of land that can be given to their cultivation, and whether it is intended to use some horse labor. For field culture we prefer planting in rows four feet apart, and the plants one foot apart in the row. Then allow them to run evenly over the ground, using the cultivator between the rows, gradually narrowing it as the plants increase, and by fall we have a fine bed of plants with room enough between, to cultivate and gather the fruit. In growing in this manner it has generally been more satisfactory to depend on one main crop, and then plough under and set again, rather than to keep an old bed clear of weeds.

The hill system has many advantages over the other, as a plantation will last several years longer; it is easier to cultivate and keep clear of weeds, and the plants can be mulched in summer to greater advantage. This summer mulching is very important, and especially in a dry season; it not only keeps the fruit clean, but

keeps the ground moist, and the plants are more productive, and the fruit is uniformly larger, and consequently commands for it better prices in the market. This system involves the extra labor of clipping the runners as they appear during the season, but this extra labor is amply repaid, in the increase in size and quantity of the fruit. To grow fruit in hills we plant in rows two or three feet apart and about a foot distant in the rows, or where land is to be economized, plant in beds of three rows each eighteen inches apart each way, and the beds two and a half to three feet distant from each other.

As to the season for setting plants, I invariably take the spring months, as I then get the advantage of the late spring rains, which help the plants to get fairly established, and thereby secure a heavy growth of young plants, that will produce a large crop the next season. Some writers, but few growers, advocate planting in August; at that season the weather is hot and dry, and the roots of the young plants at that time being very weak, the shock incident to transplanting is many times greater than in the spring, and if the plants live, the crop of fruit obtained the next year will be very small.

In our climate it is absolutely necessary to cover the plants before winter sets in. Straw, hay, leaves or any coarse litter that can be obtained, must be spread over the entire bed or field, sufficiently to prevent the sudden freezing and thawing of the ground that is so injurious to the plant. This mulch is generally removed as soon as the weather becomes settled in the spring, but when grown in hills it need only be removed from the crown of each plant, allowing the rest to remain until after the fruit is gathered.

I need not tell you that in the after culture of the strawberry, like other fruits, the better care they receive the more satisfactory will be the result. I will simply say that unless a person can and will give this fruit the attention it requires, he had better not begin, for disappointment and failure are the inevitable results of a half cared for strawberry bed.

In the growing of the strawberry for the Worcester market the later ripening varieties have been most profitable, as the early fruit often comes into competition with that brought from the middle States. A grower would not be warranted, however, in growing exclusively the latter sorts, as there is a constant demand for the native fruit, and it will always command a higher price than that brought from a distance.

The constant cry of over-stocking the market with "small fruit" is now as common as ever. A few years ago I had increased my strawberry bed to an acre, and was constantly informed that I could not sell the fruit. Since that time I have increased their culture, together with raspberries and blackberries to ten acres, the crop last year yielding upwards of ten thousand quarts, which were readily sold in Worcester market, notwithstanding the large quantities brought in by other growers. This year I have every prospect of doubling the crop, with the assurance that they will be as readily sold in the same market.

Editorial Notes.

The well known house of R. H. Allen & Co., of this city, are agents for the sale of the Philadelphia Lawn Mower, which seems to be the best and most popular of all the styles now made in the U. S. The demand this year is far ahead of past seasons.

Loss of Evergreens.

The loss during the past winter of evergreens, both wild and cultivated, is something remarkable. New England seems to have suffered more severely than any other section; and, in a trip through Connecticut and Massachusetts, about May 1st, we could not fail to notice, upon the edges of the woods, or in open fields, how many evergreens held dead or withered branches. Those classes which have suffered most are the Hemlock Spruce and Cedars. The Pines do not appear injured, nor is the Norway Spruce as much damaged as the Hemlock. During a trip in the West, about April 1st, we did not observe that the effects of the long winter were as severe as in the East.

The Peach Crop.

Authentic reports are now received concerning the peach crop of Delaware. About one-third of a crop may be expected.

Strawberries.

The strawberry crop of Delaware and the South will be a very full one; the increase of this business in Delaware the past year has been very marked, the number of acres being fully doubled. The quality of Delaware berries has generally been very fine, and shipping facilities excellent. But we fear that, by another year, the raising of strawberries in Delaware will be overdone, and very low prices prevail.

Asparagus.

Seedsmen tell us that interest in the Colossal Asparagus seems suddenly to have ceased—transactions in seeds or plants being, this spring, much less than usual. We do not understand the cause, as there can be no fault found with the variety. It is a kind well worth having. The only disinclination to its use must be in the expense of planting and manuring, and then the delay of three to five years before the bed reaches good bearing condition; very few can wait that length of time. A good acre of Colossal Asparagus will cost at least $200 to keep in order until it is five years old. After it begins bearing, every acre will need $50 worth of manure yearly, as the Colossal Asparagus is planted so wide apart (3x4), and usually three to five hills are needed to average one bunch; it can hardly be expected to get over 1,000 bunches of asparagus to an acre; a crop of 2,000 would be excellent. After bearing some time, doubtless the shoots might cut a bunch each, or 3,500 per acre.

Those who plant asparagus should not be misled by high estimates of yield or prices, nor forget the expense of care and culture. Those who make money out of asparagus deserve to have it.

The New Maples.

We are glad to welcome Mr. Barry's article on the newer varieties of maples. Such an article has been needed for a long time; as so many varieties of greater or less value have been introduced, we are anxious that the public should know their merits or demerits. We wish some one could tell us more about the *Acer macrophyllum* as a shade tree for our streets; also the *A. purpurea.*

The American Rural Home.

The horticultural department of this journal is one of the best of any agricultural weekly we know. Perhaps we ought to say *the best*, but we must not forget other good papers, like *The Country Gentleman, Prairie Farmer, Western Rural.*

The American Rural Home is published in Rochester, that grand head-center of horticultural fields, nurseries and solid knowledge, as well as liberal patronage; and friends Hopkins and Wilcox have admirable taste.

A New Variegated Ivy.

Prof. Thurber, of *The Agriculturist*, has been experimenting with a new Japanese Ivy—slips being furnished by Geo. Such, of South Amboy, N. J., under the name of *Hedera Japonica versicolor.* He states that it has been subjected to all the slights and exposures, any plant ordinarily meets with, and yet year after year it has grown freely, and put out its beautifully variegated leaves as cheerfully as if it had received the best of care. The form of the leaves in this plant is so changeable that is difficult to say what the normal shape is. The coloring is no less whimsical. Some leaves are merely edged with white; others, one-half white and half green; sometimes one will come all white, and again, a tinge of purple will be pleasingly intermingled with the white and green.

Production of Strawberries.

Novices can never get fully reconciled to the wide differences in estimates of production of berries to the acre. Yields of 6,000 to 8,000 quarts per acre once in a long time come to light, and amateurs just beginning their beds, generally bear this in mind and look forward to the estimate as possible for their own experience. On the other hand, yields of 1,000 quarts per acre seem too low to be trusted, and entirely inadequate to the desires of the amateurs' ardent enthusiasm.

We have now grown strawberries for five or six years for the market. Beginning with a very poor piece of land, which would not yield ten bushels of corn, we have manured it until it now yields fair crops. The first year it yielded but an average of 1,000 quarts per acre; the second year, 1,500 quarts; the third year, 2,000 quarts to the acre. This is the highest yet reached.

Nearly every grower in our neighborhood has received less yield per acre in proportion. Bear in mind that their soils are light loam, well drained, but also subject occasionally to drought. As this is the kind of soil most common in South Jersey and Delaware, we have found, from observation over an extended fruit district that, upon such soil, the average product yearly, per acre, is but 1,500 quarts. Where there is a heavier soil and some moisture (for strawberries will double in size and quantity if the ground is moist about time of ripening), we believe 2,000 to 3,000 quarts can easily be obtained as a steady average.

Upon heavy clay soils, well drained and manured, in climates north of New York, the product can be carried up to 4,000 to 6,000 quarts per acre. All estimates of 200 or 300 bushels per acre as a steady crop, may be set down as wild and unreliable. Estimates of 1,000 to 2,000 quarts may be depended upon generally, as a fair average

for the market plantations south of New York. In occasional years, the yield of some beds will touch 3,000 or 4,000, but in other years they will go below 2,000, or even 1,500; a reliable estimate is 2,000 to 3,000 quarts per acre.

Irrigating Strawberry Beds.

We remind fruit-growers, that if it is possible to irrigate their beds at time of fruiting, their fruit will be increased in size and quantity. Water is at that time equivalent to manure, and stimulative. We have no doubt it will make a favorable difference of one-third in the crop. The only objection we can see is that it tends to later ripening.

The Golden Yew.

Professor Thurber says that, despite the severe winter, the Golden Yew has not only shown no signs of winter killing, but, with the first bright days of spring, the tips of its branches begin to turn yellow and healthy, and give promise of that golden glow which makes it so conspicuous an object upon the lawn.

Rapid Work.

Peter Henderson has a smart gardener in his employ, who can pot 5,000 to 7,000 cuttings in a day of ten hours. An ordinary day's work is but 2,000 cuttings, but *Jim*, a young man of twenty-five years, has done as high as 7,000 One of his old foremen has planted as high as 10,000 cabbage and lettuce plants in a day, while the work of an ordinary man is but 2,000 to 6,000.

Painting Buildings.

Considerable trouble has always been experienced from poor white lead, and buildings often need new coats every two or three years. We could wish for either better paints, or more honest painters, who will not cheat us in the mixtures. Has any one found a better paint than the Averill? This last, applied three years ago to a church, is to-day better and handsomer than when first put on.

Grafton Mineral Fertilizer.

We certainly do not know what to say concerning this curious article. Most of the New York papers condemned it a year or two ago, but it still lives, and gains friends. Robert Manning, in his article, this number of THE HORTICULTURIST, says it drives off the currant worm. F. Trowbridge too, of New Haven, says it is successful there in driving off the turnip fly. Joseph Breck, of Boston, says it is very successful with him in driving off all common garden insects, bugs on vines and vegetables. Daisey Eyebright says it is the best thing she ever used for flowers, in-doors or out. So, with such a cloud of witnesses, we conclude there must be some good in it, and have ordered samples to try. It contains only twenty-one per cent. of carbonic acid, which is immediately soluble in water, and besides this, we know of nothing else of value in its constitution. It comes in the form of a dry grey powder, entirely without smell, clean and pleasant to handle. It is more properly an Insect Exterminator than a fertilizer, as its merits seem to point to more success in the former line than in the latter.

A New Horticultural Journal.

We have to laugh at the quasi horticultural department, opened in *Old and New* last month, to accommodate the relicts of *Tilton's Journal of Horticulture*. The *Nurseryman's List* is sandwiched between advertisements of religion, heterodox as well as orthodox, and spiced with announcements of new novels. We suppose the publishers of *Old and New* intend to keep up a humorous department, and this new field of horticulture will do about as well as anything for the purpose,

The Clematis.

We want more information about the Clematis. This subject which opened with our frontispiece last fall, and the timely article this spring, by Al Fresco, has elicited much interest, and inquirers ask for more. In foreign journals we notice announcements of new varieties, which possess a wonderful fragrance. Among the varieties described as possessing this fragrant character, are *The Fair Rosamond* and *Edith Jackmanii*, in which the violet odor predominates. Some have the characteristics of a combination of the violet and primrose, and in Mrs. Moore, the primrose is strongly predominant. These new varieties are the result of crossing the *Clematis Prateus Fortunèii* on the *Clematis Jackmanii*.

Honor to an American Horticulturist.

More than a page of the *Gardener's Chronicle* was lately taken up with an illustration and historical sketch of our well-known friend, Marshall P. Wilder. Thus is merit becoming world-widely known.

New Contributor.

We welcome to our pages this month the articles of Robert Manning, the former editor of *Tilton's Journal of Horticulture*.

The Ranunculus.

This flowery plant, so delicious in the spring, is called by a good English authority "one of the most beautiful and neglected of florist flowers," and he then says "that no flower surpasses the Ranunculus in brightness of flowers and symmetry of form, and in variety of combination of tints. When massed in a bed it as far surpasses the Tulip and Anemone as the moss surpasses the briar rose."

How Cultivation Affects Peaches.

A Marylander, who has examined twenty orchards in Delaware and Maryland, finds that in those orchards which were well cultivated, the buds of peach trees were plump and healthy, while in those where tilling was neglected, the buds were badly blighted. The cause is plainly obvious. Those which received cultivation commenced forming their new wood early in the season, and thence the buds had acquired sufficient strength, and were well matured, to endure the cold weather when it set in. On the other hand, those neglected ones, having made but little wood, and being ushered into the winter in a premature condition, being in a soft, spongy state, are sure, nine times out of ten, to perish.

Lafayette & Co.

This humbug firm has disappeared, where next to appear, it would be difficult to tell. Likewise, it is difficult to see who could have patronized an establishment with such preposterous claims. Those who were gulled do not read the Horticultural journals. Those who bought were mostly ladies who knew nothing of the merits of plant or flower. The Company had a little basement office, which somewhat resembled that of a florist whose only occupation is the making and selling of bouquets. Probably, many passers by, out of curiosity, strolled in there, and were overcome with the description of the curious and wonderful plants.

Hydrangea Paniculata.

Who is growing this, and how successful is he? Is it equal to description and former eulogium? It is mentioned among new and rare plants, as particularly worthy of notice, and the finest flowering shrub of recent introduction. It grows from eight to ten feet high, and bears large pyramidal panicles, from twelve to eighteen inches long. Its flowers are white, and continue long in bloom.

A Fine Pear Tree.

One Pear tree, fifteen years old, in Springfield, Mass., is stated to have produced $320 worth of fruit, during the years 1870 and 1871.

Money Wasted.

It is said that thousands of dollars have been expended in Germantown, during the past fifteen years, on Delaware and Iowa vines, and if an offer of $10,000, for ten bushels of these grapes, were made, they could not be brought forward,

A Profitable Apple Orchard.

To show what good treatment will do, we quote the success of Mr. Leonard, a practical fruit-grower, of Orleans county, New York. He manures his trees yearly. His orchards yield every year. His apples are large and fine, no poor ones. Fifty Baldwin's apple trees, fourteen years old, yielded, last year, two hundred barrels of fine apples, which sold for $3.25 per barrel, or $650.

The Expensiveness of Flowers.

When fashion resorts to flowers to assist in her decorations, her purse must open wide. Few know the extravagant prices which many flowers bring here in this city at certain seasons. Estimates have been made that the flower trade of this city is one million dollars annually. This would require sales of only $100 per day to each of thirty florists. The curiosities of this branch of trade are well delineated in an article published in the *Journal of Commerce:*

"As the love of flowers is developed, the demand for them increases. Boston and Philadelphia are called upon, almost daily, by telegraph, to make up the supply for New York. None but perfect flowers are wanted, rare varieties eagerly sought and handsome prices freely paid. Here, during the winter, the usual price of handsome rosebuds is twenty-five cents each; violets bring about the same price per dozen. Camellias sell readily for twenty-five cents a piece when in large supply, and range from that to one, two and three dollars a piece during the winter and near the holidays. Hand bouquets are sold from fifty cents upward. What the florists term good hand bouquets bring five dollars; extra fine, from five to ten dollars. Occasionally, some are sold for fifteen and twenty dollars. Baskets of flowers, well arranged, sell from five dollars to twenty-five. Stands range from fifteen to fifty dollars, and extra large ones from fifty to one hundred and fifty. They have been sold here as high as three hundred dollars. Crosses and wreaths usually range from five to thirty dollars. A cross of flowers, in one of the Brooklyn churches, on Easter Sunday, cost one hundred dollars. Refreshment and dinner tables are decorated with bouquets ranging from five to twenty dollars, and sometimes higher. At private entertainments it is not unusual to see from one hundred and fifty to three hundred dollars worth of floral decorations, and at a wedding reception given in this city a short time ago three thousand dollars were represented in flowers and plants. It is said that at the last ball given in this city by the Americus Club, when Irving Hall was connected with the Academy of Music, and filled with exotics and native plants, rocks and fountains, rustic arbors, flowers and singing birds, the botanical collection was loaned to the club that night for the sum of six thousand dollars.

"Fifteen years ago the average cost of flowers at a funeral was about ten dollars. Now it exceeds one hundred, and sometimes more than one thousand dollars' worth is required."

Trees in Victoria.

Recent explorations show that the great Australian trees exceed in height, though not in circumference, the giants of California, though some of the Australians must be regarded as very respectable in girth as well as height, the hollow trunk of one of them being large enough to admit three horsemen to enter and turn without dismounting, while they led a fourth horse. A fallen tree in the recesses of Dandenong, Victoria, was measured not long since, and found to be 420 feet long; another on the Black Spur, ten miles from Healesville, measured 480 feet. The highest trees on the Sierra Nevada, California, yet discovered, reach only 450 feet, the average size

being from 300 to 400 feet in height, and from twenty-five to thirty-four feet in diameter. The wood of these trees closely resembles red cedar, and the reddish brown bark is sometimes eighteen inches thick, and the age of some of the oldest has been computed at 2,000 years.

Floral Notes.

Best Plants for House Culture.

The California Horticulturist says that the following list of plants have proved with them the best adapted for house culture: "Zonale Geraniums, both single and double, Cactus, Camellia Japonica, Ferns, Heliotrope, Ivy, Hoya (wax plant), Saxifraga, Azalea, Auricula, Begonia, Cuphea, Diosma, Lobelia, Lantana, Myrtle, Oleander, Chinese Primrose (Primula Sinouris), Aphelandra, Bouvardia, Caladiums, Hibiscus, Salvia, Poinsettia, Orange, Gesneria, Gloxinia, Euphorbia, Daphne, Cyclamen, Cinerarias, Calceolaria, Clerodendron, Chorizema, Stephanotis (climber), Myrsiphyllum (climbing or trailing) Coleus, Palms." This list will be found very useful to the amateur, as none are mentioned in here which have a chance of failure under reasonably good treatment.

Rose Rendatler Geranium.

It may not be generally known what a very useful plant this is for winter flowering; its bright pink flowers are brighter now and of a better shape than they are in summer, and they are also produced very abundantly. I have a house half full of it, that has been a mass of flowers for the last three months. The cuttings were struck late in spring, and grown in the open air in six and eight inch pots; not plunged, but placed on bricks, and in September were removed to a light, airy house, where the temperature is not allowed to fall below 40°. The plants are now many of them perfect little specimens, fit for a dinner table, with five or six fully developed trusses on each. I have given many other kinds a trial for winter flowering, but never found another half so good as Rose Rendatler. This I have grown and watched five or six winters, and it has never failed.—*The Field.*

New Bicolor Geranium—Pride of Mount Hope.

The European varieties of gold and bronze-leaved geraniums do not endure our bright summer suns well enough to answer a good purpose for bedding out, but Ellwanger & Barry have raised a seedling from Mrs. Pollock, that well known and most beautiful tricolor, which they believe will meet the wants of florists in this particular. It is a bicolor of vigorous habit, the leaf-ground golden yellow, very handsomely set off with a broad, well-defined, bronzy-red zone. Instead of fading out in our bright summer's sun, the yellow leaf disc becomes of a more deeply golden hue as the heat of the sun increases, thus enhancing the beauty of the foliage and heightening its effect. The foliage is said to be smooth, of good form and substance.

English Violets.

These can hardly be said to be good border plants, as the foliage is very apt to get injured, in the necessary covering to winter them, and as the flowers come out in the first warm days in spring with foliage destroyed, good flowers are a failure.

The best way to raise these deliciously scented flowers is in the cold frame, in which the flowers come to perfection just before winter leaves us. The way to prepare them is, say in April or May, divide the old plants into single pieces, and put in rows only one foot apart each way, in the moistest spot at command; better also if partially shaded by a building or wall during the summer months. Then, their near neighbors, the pansies and daisies, are all rather touchy to keep alive under our glaring sun and hot dry summers.

To form good stools, keep the runners cut during the summer. Early in the fall

take up with as much soil as possible and plant into your cold frames, with a sheltered and warm exposure for the winter.

It is not desirable to put on any glass covering until hard frosts intervene, as if kept covered close at this particular season, growth is too rapid, and the foliage becomes drawn and watery. Give air during warm weather, otherwise keep close and covered from frost until about the first of March, when flowers will begin to show pretty fast as the sun gets more power.

The first sorts to flower are the single ones, and among the very best are the Czar and Lauchena; then come the doubles. First to open, the old Russian blue and similar flowers. Among the best of this class are Imperatrice Eugenia and the King of Violets. For late use and delicacy of color comes the Neapolitan—a double of a charming shade of pale blue, while the others are mostly dark blue. There are whites also, but, unfortunately, none of these are very free of flowering. We have grown the Queen, a large double white, for years, and have never succeeded in gettinr a full show of flowers. This is not, after all, of so much importance, as the name and fragrance is associated with these blues rather than whites.—*Prairie Farmer.*

Flower Beds.

To cultivate flowering plants to the best advantage, requires as much care in the selection and preparation of the soil as any other crop. No one would expect to grow a crop of cabbages in soil overrun by the roots of trees and shaded continuously by their dense foliage, yet how often do we observe flowering plants placed in such circumstances, producing a few meagre flowers in the early part of the season, perhaps, and dwindling and dying as soon as a few dry sunny days occur. Most summer flowering plants blossom on the points of branches, and, therefore, to produce a continuance of flowers, there must be a continued healthy and vigorous growth. It is true there are some flowers adapted to shade, like the fuchsias, daisies, etc., and these should be selected for such positions. Heliotropes and some of the geraniums do well where there is sun only a few hours a day.

Select an open exposure where the sun will have free access to the plants, dig the ground very deep, and dress heavily with thoroughly decomposed manure, so that the roots may have some supporting resort when the surface moisture fails.

A small circular or oval bed ten or twelve feet in diameter, properly prepared and planted with flowers from pots, will produce a continued mass of flowers even in the driest summers. In arranging the plants, there is much latitude for taste, and very striking combinations may be secured.

Rose beds are much more beautiful and satisfactory, when only a few well known, hardy and continued blooming kinds are employed, than when planted indiscriminately, with robust and tall-growing sorts crowding those of more delicate growth. In larger yards, where several beds can be made, there will be a better opportunity for a display of this kind of cultivated taste.—*Germantown Telegraph.*

Early Flowering Roses.

The *Cottage Gardener*.recommends as roses for early flowering in a conservatory, the following kinds: Marechal Niel, La Boule d'or, Madame Willermoz, Adam, Souvenir d' un ami, Alfred Colomb, Charles Lefebre, Baronness Rothschilds, La France, General Jacqueminot, Countess of Oxford, Christine.

Stakes and Supports for the Garden.

A correspondent informs the *Technologist* that he has now in his possession stakes for flowers and shrubs which have been in constant use for over nine years, and their points are yet perfectly sound. "I take," he says, "common coal tar and bring it to the boiling point in a kettle some ten to twelve inches deep; I then place the lower part of the stake in the boiling tar, immersing it as deeply as the pot will allow. After remaining therein about ten minutes, I take them out, allowing the surplus tar to drain off, and roll the tarred portion in clean sharp sand, covering

every part of the tar. After they have become perfectly dry I give them another coat of tar, completely covering the sanded part." He keeps the upper parts well painted.

Grafting the Coleus.

It may seem to be entirely superfluous to suggest an improvement upon the many beautiful varieties of Coleus now in cultivation. But it should be the aim and pride of every florist to make some change or add another shade of color or form to every plant under his charge; and now that the newer Coleuses are really almost, or quite perfect, in both form and color of leaf, he must try his skill in another direction and graft the various varieties upon one stock. Take, for instance, a strong plant of *C. verschaffelti*, and graft a light golden-leaved variety upon the first tier of branches; upon the next, one of a darker shade, and so on to the lower, which may be the deepest colored of all. Then reverse this order in color upon another plant, or put a different variety upon each branch. Magnificent specimen plants can be made in this way, and such novelties are always attractive and highly appreciated. We throw out these hints hoping that at our fairs next fall we shall see many such specimens.—*Rural New Yorker.*

Soil for the Gladiolus.

The soil most suited to the gladiolus is a sandy loam, and of course it should be free from stagnant water. The great point in securing fine bulbs is to plant as early as the season will admit, in this latitude, say from the first to the middle of April, depending upon the season; this year until the last of the month. They should be planted about three inches below the surface, and then, even if there is slight spring frosts, no injury will result. The consequence of this early planting is, the bulbs are enabled to commence root action before the hot weather sets in to force top growth, which is desirable in all bulb growing.

While this early planting is favorable to the gladiolus, it does not hold good with the tuberose. It is useless to plant these in the open ground until real hot weather comes, say until corn grows pretty freely. As far north as this, and more particularly near the lakes, which cause the springs to be cold and backward, it is quite desirable to give tuberose bulbs the benefit of a hot-bed, so as to get them well started before planting out. Indeed, it is well to plant at different times; the first batch, in March, in the hot-bed, the second in the open ground at the end of May. If the last are kept in, say, about six inch pots all summer, they can, if not quite done flowering by fall, be brought into the house to finish. Greenhouse men often have them in flower all the winter, but to do so takes a very high temperature, and but few flowers to a bulb. The side shoots of the tuberose, planted out in ground similar to that recommended for gladiolus, will furnish flowering bulbs for the next year.

General Hints.

In cleaning and digging one's flower beds and borders in the spring season, it is well to divide large masses of hardy perennials, or the flowers are apt to come smaller than on vigorous young stools. The hardy phlox, not near often enough met with, is very much benefited by this division of the roots.

Pæonias will sometimes become so weakly in growth from age of stool that but few, if any, flower buds form, and these fail to open freely. In such cases dig up the whole plant, divide into pieces so that each separate plant has only two or three shoots, plant in good, rich soil, and in a year or two the vigor of the plant will be greatly improved, and with it the flowering properties.

The best way to arrange hardy perennials is in mixed borders, backed by shrubs and evergreens. If not planted too thick, or while the shrubs are getting to full size, here and there a hollyhock planted among them has a pretty effect. Indeed, we like to see not only these, but such common things as sunflowers, even in such cases. Of course there is not much beauty in the common old single thing that springs up in neglected places, but the dwarf double varieties, with flowers nearly as

big as one's hat, nodding in the breeze, if not planted too plentifully, give variety to the scene.

Another class of plants, too, for one or two of which we leave space for in this connection, is the castor oil bean, simply as a means of obtaining contrast of foliage.—*Cor. Prairie Farmer.*

The Rose for Out-door Culture.

Situation.—The rose will flourish in almost any situation where the soil is suitable and suitably prepared; but where somewhat protected from the midday sun's intensity it seems to flourish best, other things being equal. So situated as to receive the rays of the morning and evening sun, the blossoms are more full, perfect, and last longer in perfection; it is not well, however, to have them entirely shaded. A full exposure will almost entirely ruin some varieties which are tender, to the full light and rays of the sun.

Soil.—The rose will grow in almost any soil; but that in which it delights is a strong rich loam, and well decomposed vegetable mould, cow dung or horse dung. But as we are not at liberty, always, to choose, we may modify or supply any deficiency, so far as possible, by culture, etc. Be sure and make the soil *deep, rich, mellow,* and *well drained;* for the rose will not supply us with its full beauties where these essentials are wanting; no danger of overdoing in these respects.

Planting.—The rose may be planted either in the spring or fall, preferable in the fall. If done in the spring it should be done very early; or, if done late, cut back to only a few buds. Very soon after first fall frosts is time to commence transplanting. Young healthy plants are to be prefered to old ones, wherever a choice is to be had. Old plants more frequently disappoint the cultivator than otherwise. When the plant is dug great care should be exercised to lift the roots entire, neither to break, cut, or bruise them. Examine them, before planting, and if any have been injured cut them off smooth, with a sharp knife—and it is always best to cut from the under side with an outward slope; shorten upward, downward growing roots. The rose all ready, dig the hole large enough to spread out the roots to their full extent, dig up and loosen the bottom and, if necessary, add enriching matter; set the rose in place and fill in the rich soil, working it in around the roots with the fingers and hand. When the plant is finally adjusted, the upper roots should be close to the top of the ground; be sure the roots are all fixed steady and solid, with the soil in close contact.

Pruning.—Spring is the time for pruning, and the only time, in cool climates. The aim in pruning should be to compensate for the loss of roots, aid in forming the bush, reduce superfluous wood, and to induce profuse blooming. It is difficult to give arbitrary rules to be adopted under all circumstances, but for general, annual pruning, the old wood and weak growths of the last year should be cut out. Young strong wood produces the finest, most perfect flowers. In pruning climbing roses, cut out all shoots not likely to furnish blossoms, and retain the whole length of young vigorous shoots. Aim to give a wide spreading top in pruning; if properly pruned it will spread annually, by degrees.—*Maryland Farmer.*

Horticultural Notes.

Ammonia and Flowers.

Farmers and chemists are well aware of the beneficial effects of ammonia on all kinds of vegetation. If you desire your roses, geraniums, fuchsias, etc., to become more flourishing, you can try it upon them, by adding five or six drops of aqua ammonia to every pint of warm water that you give them; but don't repeat the dose oftener than once in every five or six days, lest you stimulate them too highly. Rain water is impregnated with ammonia, and thus it refreshes and vivifies all vegetable life.

Ammonia is soluble in soft water, and a little of it may be dissolved in the water you use on your plants. It is much cheaper than the aqua ammonia as sold by the druggists.

Marquis of Lorne Cucumber.

The English gardeners are noted for their skill in producing immense cucumbers. Their climate is not suited to the growth and full development of this vegetable, except under glass, and consequently the fancy varieties bring fancy prices. The Marquis of Lorne cucumber is one of the latest novelties, and is described by an English paper as having a beautifully short neck, perfectly smooth skin, is very straight and extraordinarily productive. As an exhibition variety it is unequaled, on account of its immense size, yet it is most symmetrical in form, and is the finest cucumber ever introduced. The flesh is very solid and firm, with but few seeds, while the flavor is exceedingly fine. It grows from two feet to thirty-seven inches in length. It is the result of a cross between the "Invincible" and "Needle-gun" varieties.

Sowing Flower Seed.

The time is now approaching for sowing the seed of annuals and of other plants, and it is important that the work be properly done. We once employed a novice to sow some seed, in the absence of a better gardener, and he resolved to do his work well. He accordingly buried the seed so deep that few ever came up, and the seedsman was denounced for selling what was bad. A portion was left for a time, and then sowed in a hurry, the man having time only to give a thin dash of earth over them. These came up profusely, and the reputation of the seedsman was rescued. The rule which we have adopted for beds in open grounds is to cover all seed from three to five times their shorter diameter—small seed receiving only a slight sprinkling, and larger a more copious sifting of the fine mould. No seed should be sown when the soil is not dry enough to be reduced to fine powder. The best soil is sandy loam, but a larger proportion of clay makes a good material if dry enough to be made perfectly mellow. The addition of sand and leaf mould will make any soil of proper consistency. The best way to sow seeds is, in the first place in drills or circles; then the weeds may be easily taken out. If sown broadcast, it will be more difficult to keep the bed clean. Provide a quantity of finely pulverized mould in a basket or barrow, and cover them by sprinkling it evenly over with the hand. Avoid soaking the beds with water until the plants are up. If the surface is likely to become too dry after sowing, which is often the case, put on a thin gauzy mulching. This may be pulverized moss, thin canvass, or even a newspaper. Every person who plants a flower garden should know the hardy plants, which usually come up soon, and may be sown early, from the tender, which are often more tardy in appearing, and should be sown later. Most seed catalogues designate these separately.—*Ex.*

Potash for Peach Trees.

At the meeting of the Cincinnati Horticultural Society, Mr. Shepard alluded to potash as a most excellent fertilizer for peach trees. He had a peach orchard of about twenty-five acres; the soil was poor, and manured with potash only. One barrel, costing $35, or fifteen cents a pound, lasted him four years. He dissolved it in water, so that the lye would be so weak that a potato put in would not quite come to the surface, and then applied two quarts of this liquid close around the trunk every spring. From 2,000 peach trees he had sold during the past five years $12,000 worth of peaches. His crop had been in 1867, 1,500 bushels; in 1868, 600 bushels; in 1869, 1,400 bushels; in 1870, 350 bushels; and last year 1,800 bushels. He had also a good prospect for a crop this year, the buds being nearly all perfect.

Soluble Sulphur and the Red Spider.

R. Varden writes the *Garden*: "I use this in spring in large quantities for the destruction of red spider on gooseberry and currant bushes, and prepare it as follows: I slack some quicklime, and mix it with about half its weight of common flour of

sulphur in a heap, with a little water, as in making mortar. After lying a few hours, I boil it for twenty minutes in a large boiler of water, in about the proportion of one gallon to one pound of the mixture. This produces a sulphurous liquid, about the color of porter, two or three pints of which to a two-gallon bucket of water is strong enough for syringing; but we test the strength, by dipping a spray into the bucket, and get the liquor just strong enough not to damage the leaf. If too strong, the leaf withers in an hour or two.

Small Fruits in New Jersey.

At the late meeting of the Pennsylvania Fruit Growers' Association, Wm. Parry stated that he knew one man who had received $10,000 at one time for his strawberries, and added: This man undoubtedly understood his business; his success was not because strawberry growing was inherently profitable in itself—and he would probably have succeeded equally with any other business. The premium crop of strawberries in Burlington, N. J., was 263 bushels per acre, yielding a profit of over $1,000. The average is hardly one-third of this amount. Raspberries have been known to produce 200 bushels per acre. Their price ranged from 5 to 60 cents per quart; net profits of $263 per acre have been made on them. Blackberries sold as high as 50 cents per quart. One cultivator in West Jersey has 75 acres in them, and sold last year $20,000 worth of fruit, with a profit of $14,000. Another made $200 per acre profit. The West Jersey Fruit Growers' Association estimate $250 per acre profit on all small fruits from the return of 776 acres; another estimate makes the profit $272 per acre. Of cranberries over 150,000 bushels were produced last year, from 2,000 acres of land already producing, while 4,000 acres more are planted and will soon be in bearing. This is two-thirds the quantity of the whole United States.

Summer Pruning of Raspberries.

Dr. Warder stated, at a late meeting of the Cincinnati Horticultural Society, he had been and still was a strong advocate of summer pruning of raspberries. But, to be beneficial, it was necessary that it should be attended to early—often before the ripening of the fruit. And this summer pruning should not be done with a "slashing" knife, but the tip of the canes should be simply pinched off, when the canes had attained to the proper height, say to 2 feet, 2½ feet, or 3 feet. If this system was pursued, it would tend to throw out plenty of laterals, with an abundance of fruit buds, and the canes would become stocky and self-supporting, thus dispensing with the necessity of stakes. He was not surprised that the large growers of Black Cap raspberries in Clermont county should be opposed to summer pruning. *They* did not want laterals, because laterals would be in the way of cultivation by the plow and the cultivator; and, besides, the canes with no laterals being tied up to the stakes, gave great facilities for picking fruit rapidly.

Mr. Cox admitted that where summer pruning had been attempted, it had usually been on the slashing plan, thus checking and stunting the growth of the canes. If it was done by simply pinching, and done early, it might not be so objectionable.

Mr. Hammit said he was greatly in favor of summer pruning. He usually pinched off the tips twice; that is, in the first place, he pinched off the earlier canes, and afterwards those that attained the requisite height later in the season.

Clermont County System of Cultivating Black Cap Raspberries.

Mr. Cox said that the plants were first put out four feet apart, and so arranged that the ground might be ploughed both ways. In the spring this is turned back, and then the soil is cultivated.

The most successful growers are particular to do most of the cultivation in the spring, only slightly stirring the soil afterward to keep down weeds and to promote a condition of soil to absorb moisture from the atmosphere.

The Japan Pear.

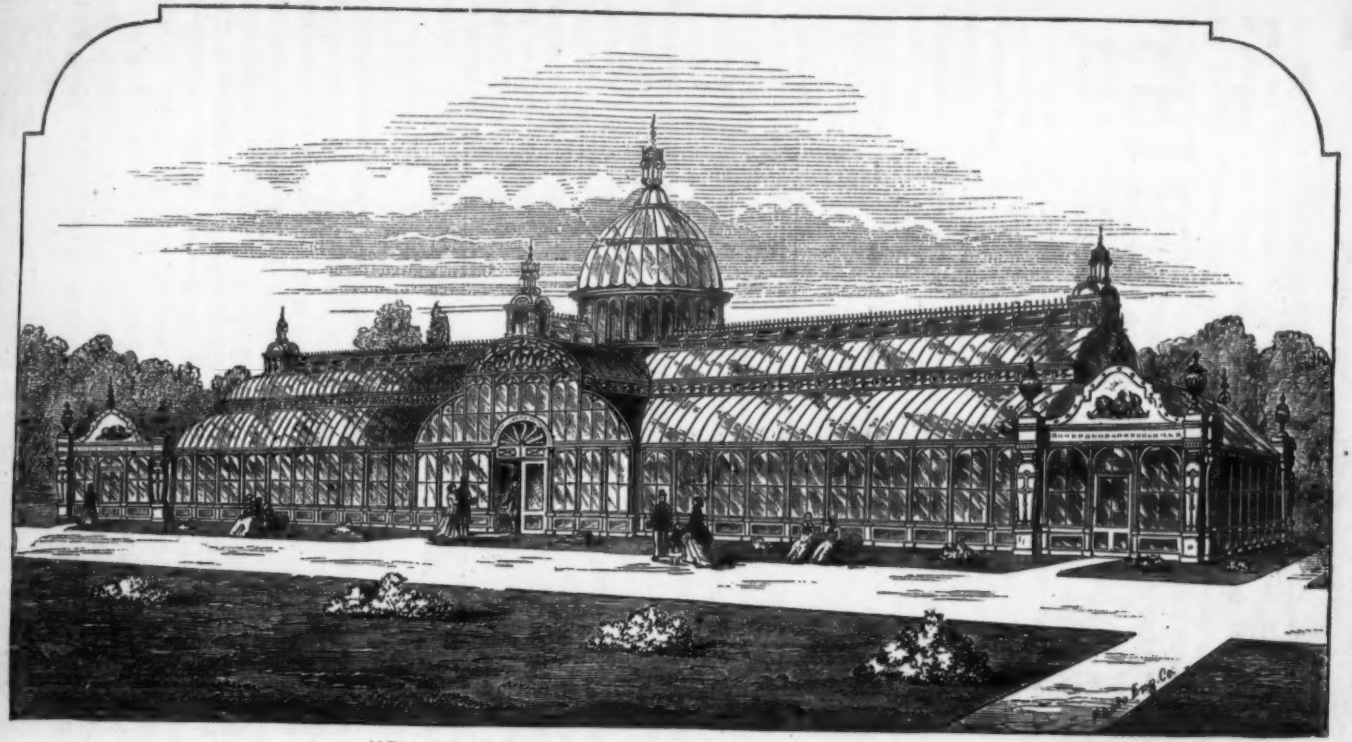
Mr. Quinn speaks in the *Tribune* of it thus: "This curious-looking fruit has attracted considerable attention from amateur fruit-growers within the past few years. Not so much from the quality of the fruit, as from the remarkable growth of wood it makes, and the profusion and size of its leaves. We have specimens in the orchard grafted a year ago last spring, that made shoots last season ten feet long and three-fourths of an inch in diameter at the base. The leaves on those shoots are five or six times as large as the ordinary pear leaf. The tree does not shed its leaves until a month or six weeks later than the common pear, and from the first of September until the first of December, the Japan Pear makes a beautiful ornamental tree, and the foliage becomes equally as brilliant as the red maple.

"We have two varieties, and they are undoubtedly seedlings of the old Chinese Sand Pear." James Hogg says in the December number of the *Agriculturist* that both of those varieties are quite common in Japan, where the fruit is used for domestic purposes. The fruit of the Japan pear looks more like the russet apple than it does a pear, but the wood and leaves have the characteristics of the pear. One of the varieties is quite fragrant, having a pleasant aroma, not unlike a fine quince. Two years ago last fall we had some of these pears put up in the same way as preserving quinces, and to our surprise we find they make very excellent preserves. The tree makes a very rapid growth, bearing early and abundantly. The fruit looks like ropes of onions, they are so thick on the branches. So far, the insects have not punctured or injured the fruit in the least. In two bushels of these pears, gathered last fall, there was not a single specimen with an insect mark. With further trial the fruit may prove a substitute for quinces for preserving purposes, and they may be valuable on this account. But even admitting the fruit to be without merit the Japan Pear will make a handsome addition on the grounds as an ornamental tree. The trees of this variety that we have, are grafted on a pear, and the union seems quite as good as it does with the common pear, grafted at the same time. Next spring we intend to re-graft the Japan stock with the Seckel and one or two varieties to see if the rapid growth of the former will exert any change on the latter either in wood or fruit."

Currants.

About fifteen years ago I received as a present cuttings of the following varieties: White Grape, White Dutch, White Crystal, Cherry, Mays, Victoria, Large Red Dutch, and Black Naples. After planting in the usual manner, I took particular pains to cultivate them well. Every spring the ground has been top-dressed profusely with ashes, leached and unleached, well incorporated with the soil under and around the bushes, and has been kept from grass and weeds. Immediately after this application they are mulched with barn-yard or chip manure. The result has been that I have never failed of a large crop of the finest and largest fruit, and entirely free from the worm.

Near these bushes (perhaps sixteen rods away) I have some of the old common varieties, which have not been similarly treated, but left to take care of themselves, and, as a consequence, they are nearly destroyed by the worms, the leaves during the past two summers being entirely, and many of the smaller twigs totally, destroyed. I have come to the conclusion, therefore, that the larvæ of the currant worm lie dormant during winter in the ground near the bush they intend to attack the next season, and that mixing wood ashes with the soil destroys them. I do not profess to be an entomologist, but I certainly can arrive at no other conclusion. I am now growing quite a number of bushes in the tree form; i. e., one bush only in each place, six feet apart each way. The advantages consist of easier cultivation, easier gathering, and larger and finer fruit.—*Ex.*



NEW WINTER GARDEN, AT EDINBURGH, SCOTLAND.